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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/092,617	03/08/2002	Takaharu Kondo	03500.016270.	8664

5514 7590 12/29/2003

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EXAMINER

STEIN, STEPHEN J

ART UNIT	PAPER NUMBER
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1775

DATE MAILED: 12/29/2003

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/092,617

Applicant(s)

KONDO ET AL.

Examiner

Stephen J Stein

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23,25-44,46 and 49-90 is/are pending in the application.
- 4a) Of the above claim(s) 25-44 and 70-90 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-23,46,49-53 and 55-69 is/are allowed.
- 6) ☒ Claim(s) 54 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The IDS originally filed September 18, 2002 (Paper #5), but which was missing from the file wrapper and which was re-submitted by applicant with the stamped postcard has been reinserted into the file wrapper and the references have been considered by the examiner.

Claim Rejections - 35 USC § 103

2. Claim 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,103,138 (Kondo).

Kondo teaches a photovoltaic device with a p-i-n junction wherein the junction contains a microcrystalline silicon layer doped with phosphorus which has a diffraction intensity at the (220) plane measured with x-rays or electron beams which is 30% or more of the total diffraction intensity (See abstract, col. 3, lines 25-66, and col. 13).

Although Kondo fails to teach that microcrystal silicon based film in the junction has a diffraction intensity at the (220) plane of 80% or more of the total diffraction intensity, absent a showing of criticality with respect to diffraction intensity at the 220 plane of 80% or greater, it would have been obvious at the time of the invention to maximize the diffraction intensity since the Kondo reference teaches a diffraction intensity of greater than 30% of the total diffraction intensity which includes the claimed range of 80% - 100%.

Allowable Subject Matter

3. Claims 1-23, 46, 49-53 and 55-69 are allowed over the prior art of record.

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Response to Arguments

4. With regard to claims 1-23, 46, 49-53 and 55-69, applicants' amendments have placed the claims into allowable form. With regard claim 54, new rejections base on art previously cited by applicants have been made.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen Stein whose telephone number is 571-272-1544. The examiner can normally be reached on Monday through Friday from 8:30 a.m. to 5:00 p.m. If the attempts to reach the examiner are unsuccessful, the examiner's supervisor, Deborah Jones can be reached by dialing (571) 272-1535. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group Receptionist whose phone number is (703) 308-0661. The fax phone number for this group is (703) 872-9306.

December 28, 2003



Stephen J. Stein
Primary Examiner
Art Unit 1775